World Journal of Pharmaceutical and Life Sciences
WJPLS
www.wjpls.org
SJIF Impact Factor: 6.129

REVIEW ON FRAMEWORK IN PATIENT SAFETY

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Article Received on 24/03/2020 **Article Revised on 14/04/2020** **Article Accepted on 04/05/2020**

ABSTRACT

Medication error are common in general practice and in hospitals. Both error in the act of writing (prescription/ dispencing/administration errors) and prescribing faults due to erroneous medical decisions can result in harm to patients. Any step in the prescribing process can generate errors. Slips, lapses, or mistakes are source of errors, as in unintended omissions in the transcription of drugs. Faults in dose selection, omitted transcription, and poor handwriting are common. Inadequate knowledge or competence and incomplete information about clinical characteristics and previous treatment of individual patients can result in prescribing faults, including the use of potentially inappropriate medications. An unsafe working environment, complex or undefined procedures, and inadequate communication among health care personnel, particularly between doctors and nurses, have been identified as important underlying factors that contribute to prescription errors and prescribing faults. Active interventions aimed at reducing prescription error and prescribing faults are strongly recommended. These should be focus on the education and training of prescribers and the use of online aids. Feedback control systems and immediate review of prescription, which can be performed with the assistance of a hospital pharmacist, are also helpful.

KEYWORDS: Medication, Errors, Risk, Reporting, Health care professionals, Safety, Patient.

INTRODUCTION

The use of medicines should be the safe use as it's the most common medicinal interpretation. Enhancement of drugs facilities has being brought for doctors facilities, this enhancement has being carried out since 20 years. Blunder are getting to the comparable end due to more security the mistakes in the prescription causes the threat to the human life. Because of this there waves the used of global action on patient safety. The landscape of the health care is changing the region has being increased, therefore the new technology are growing with its care model this can also lead to threats to the safe care. The big challenge is to reduce the burden of the patient harm. Still despite of pioneming work since 15 years efforts has not achieved substantial changes. Safety measures have being adapted for the high income setting have varying impart. But it's still not adapted for the successful applications in low and middle class countries. The member states and the partners are staring to has not achieved health coverage and sustainable development goals. Global action on patient safety enables the communities to there families safe.

Important definations

Active error: A mistake that immediately injures a patient. Active errors result directly from the actions of health care professionals. For instance, working on the wrong eye or removed the wrong leg, are exemplary instances of a functioning mistake.

Adverse event: An adverse event is any untoward medical occurrence in a patient or clinical investigation subject administered a pharmaceutical product and which does not necessarily have a causal relationship with this treatment.

Latent error: Latent error is a common reason for an accident that causes damage. The error's effect does not happen immediately and is often a result of multiple errors made by people in a system that is set up poorly. Thus, latent human error causes indirect and not immediately obvious damage. Latent human error is often discussed in aviation mistakes, and makes up over 70% of the accidents.

Medical error: The word error in medicine is used as a label for nearly all of the clinical incidents that harm patients. Medical errors are often described as human errors in healthcare. Whether the label is a medical error or human error, one definition used in medicine says that it occurs when a healthcare provider chooses an inappropriate method of care, improperly executes an appropriate method of care, or reads the wrong CT scan.

Prescription error: A prescription error is a failure in the prescription writing process that results in a wrong instruction about one or more of the normal features of a

prescription. The normal features include the identity of the recipient, the identity of the drug, the formulation, dose, route, timing, frequency, and duration of administration.

Near miss: A Near Miss is an unplanned event that did not result in injury, illness, or damage but had the potential to do so. Only a fortunate break in the chain of events prevented an injury, fatality or damage; in other words, a miss that was nonetheless very near.

Noxious episode: Physically harmful or destructive to living beings, constituting a harmful influence on mind or behavior especially: morally corrupting. The outcome could be an awful capture and passing.

Patient safety: Patient safety is a discipline that emphasizes safety in health care through the prevention, reduction, reporting, and analysis of medical error that often leads to adverse effect.

Practical solution to improve patient safety

- There are great opportunities to enhance patient safety in office practice, but the pattern of medical errors and techniques to reduce their frequency appears to differ from the hospital environment.
- A focus on decreasing the risks of prescribing errors and tracking errors may be particularly fruitful in the office setting, such as electronic prescribing, electronic medical record, the use of detailed patient instructions, unambiguous prescribing, and meticulous follow-up of test results.
- The surgical environment presents its own unique set of risks to patient safety, particularly because of the catastrophic consequences that may result from even infrequent events. Vigilance against stress and fatigue is particularly important.
- Patient safety in surgery is promoted by routine use of the "universal protocol," antibiotic prophylaxis, thrombo prophylaxis, open communication among all members of the surgical team, and clear guidelines for introducing new procedures and technology.
- Patient safety is a state of mind, not a technology. The technologies used in the medical setting represent tools that must be properly designed, used well, and assessed on an on-going basis. Moreover, in all settings, building a culture of safety is pivotal for improving safety, and many non-technologic approaches, such as medication reconciliation and teaching patients about their medications, are also essential.
- This article addresses the topic of medication safety and examines specific strategies being used to decrease the incidence of medication errors across various clinical settings.

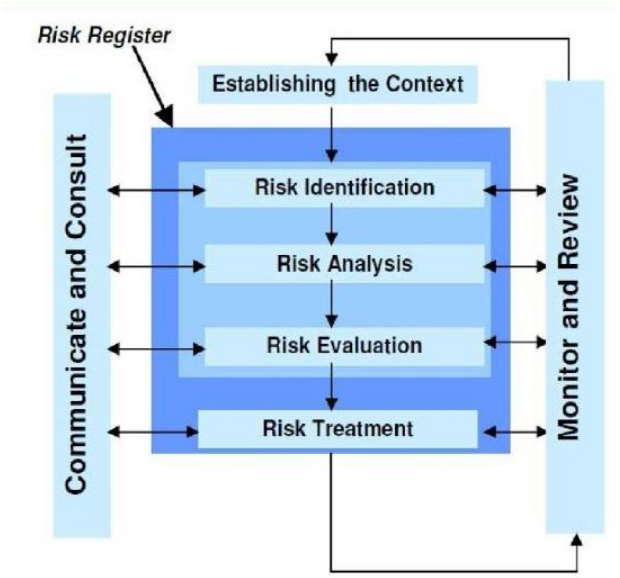
Identifying risk

Purpose Risk identification plays a key role identifying patient safety risks. As previous research on risk identification practices, as applied to patient safety, and its association with safety culture is limited, we aim to evaluate current practice to address gaps and potential room for improvement.

Design/methodology/approach .We carry out interview-based questionnaires in one UK hospital to investigate real-world risk identification practices with eight healthcare staff, including managers, nurses, and a medical consultant. Considering various aspects from both risk identification and safety culture practices, we investigate how these two are interrelated. Findings The interview-based questionnaires were helpful for evaluating current risk identification practices.

The interviews addressed valuable challenges affecting success in the risk identification process, including limitations in safety culture practice, training, balancing financial and safety concerns, and integrating risk information from different tools and methods.

- Create comprehension or familiarity with dangers
- Give direction on the best way to work securely
- Provide cautions and admonitions when hazard or threat is clear
- Place obstructions among risks and people or different frameworks
- Restore framework to a protected state when conditions are not ordinary
- Contain or killed risks if the boundary isn't satisfactory
- Establish techniques for getaway and protect should risk regulation come up short



Preventing medication error in hospitals

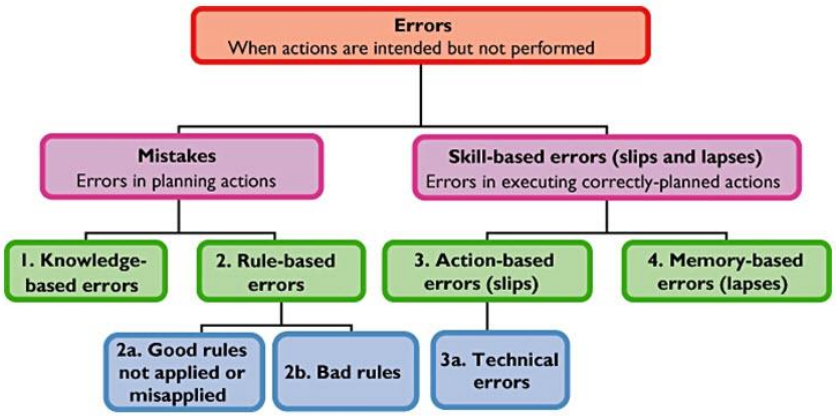
The goal of medication therapy is the achievement of defined therapeutic outcomes that improve a patient's quality of life while minimizing patient risk. There are inherent risks, both known and unknown, associated with the use of medications (prescription and nonprescription). This document addresses medication errors, defined as any preventable event that may cause or lead to inappropriate medication use or patient harm while the medication is in the control of the healthcare professional, patient, or consumer. Such events may be related to professional practice, healthcare products, procedures, and systems, including prescribing, order communication, product labeling, packaging, and nomenclature, compounding, dispensing, distribution, administration, education, monitoring, and use.

A culture of patient safety, based on the principles of just culture, provides a solid foundation for safe and effective systems and teamwork. In a just culture, safety is valued, reporting of safety risks is encouraged without penalization, and the staff, leadership, and board of trustees are held accountable using a clear and transparent process that evaluates the errors. The evaluation process separates events arising from a flawed system design or inadvertent human error from behavioral choices that compromise safety; there may be consequences when unjustifiable risk is knowingly taken by an individual. A just culture environment should also include a support system for second victims. Second victims are defined as healthcare providers who are involved in an unanticipated adverse patient event, a medical error, or a patient-related injury and become victimized in the sense that the provider is traumatized by the event. Programs should be established to support the second victims and to educate healthcare professionals about the second-victim effect.

Classification in medication error

A medication error is a failure in the treatment process that leads to, or has the potential to lead harm to the patient. Medication errors can occur in deciding which medicine and dosage regimen to use writing the prescription (prescription errors); manufacturing the formulation dispensing the formulation (wrong drug, wrong formulation, wrong label); administering or taking the medicine (wrong dose, wrong route, wrong frequency, wrong duration); monitoring therapy (erroneous alteration). Although medication errors can occasionally be serious, they are not commonly so and are often trivial.

However, it is important to detect them, since system failures that result in minor errors can later lead to serious errors. Reporting of errors should be encouraged by creating a blame-free, non-punitive environment. Errors in prescribing include irrational, inappropriate, and ineffective prescribing, under prescribing and overprescribing and errors in writing the prescription. Avoiding medication errors is important in balanced prescribing, which is the use of a medicine that is appropriate to the patient's condition and, within the limits created by the uncertainty that attends therapeutic decisions, in a dosage regimen that optimizes the balance of benefit to harm. In balanced prescribing the mechanism of action of the drug should be married to the pathophysiology of the disease.



Failure to give prescription order

Prescribing errors and prescribing fauts are the major problem amongst the medication error. They occur both in general practice and in hospital although they are rarely fatal they can affect patients safety and quality of healthcare. A definition states that's clinically meaningful prescribing errors occur when there is an unintentional significant reduction in the probability of treatment being timely and effective or increase in the risk of harm when compared with generally accepted practice The definition is clearly oriented to the outcome of the error however it does not take into account failures that can occur during the whole process of prescribing independently of any potential or actual harm.

Prescription errors bound those related to the act of writing a prescription, whereas prescribing faults encompass irrational prescribing, inappropriate prescribing under prescription overprescribing and ineffective prescribing, arising from erroneous medical judgement or decision concerning treatment or treatment monitoring . Appropriate prescribing results when errors are minimised and when the prescriber actively end eavours to achieve better prescribing both actions are required.

Sources: A prescribing fault can arise due to the choice of the wrong drug, the wrong route of administration and wrong frequency. Inaccuracy in handwriting and poor legibility of handwriting the use of abbreviations or incomplete writing of prescriptions .Errors in the dose selection occur most commonly and represent >50% of all prescribing faults.

Error potentional in prescribing phase

The basic types of the prescribing mistakes incorporate dosing mistakes endorsing drugs to which the patient had an unfavourable drugs to which the patient had an unfavourable susceptible history and blunders including the endorsing of wrong measurements shapes .In the models recorded convinent access and utilization of the data is fundamental to evade unfavourable medications occasions . Inspite of the fact that not a panacea, utilization of a mechanized prescription request passage framework can essentially add to the aversion of medicine mistakes (SA Health, 2012). The type of health care information that is best suited for computerization includes:

- General information (e.g., patient or medication information)
- Repetitive function (e.g., dosage guidlines, medication names, sensitivity information)
- Complex processes that depend on reproducible results
- Items where legibility is importanat
- Items that require timly attention
- Items where accuracy ids importanat

Guideline for the prescriber

Flowing are the guidelines which are recomended for the prescribers when writing the directions for the drugs on their prescription orders.

- Unless the prescriber, pharmacist doesnot direct the name and strength og thr drug on the prescription it will not be dispensed.
- If possible the specific time should be indicated for the drug administration in the day (for eg take one capsule at 9:00 AM, 2:00 NOON, and 10:00 PM is preffereed to take one capusle three times a day)
- Use the potentially puzzling abbrevations ie, qid,qod,qd, etc is discouraged. Take as directed or take is neccesary are the abbrevations which can cause confustion in patients that vague instructions should be avoided.
- If the dosing is at specific intervals of the clock then that should br stated on the prescription by indicating the time of drug administration
- The intended effect for which the drug is being used should be included in the instruction (for eg take one tablet at 8:00 AM for the blood pressure.)
- The metric system of weights should be cast off
- The no of times the prescrpion should be renewed should be mentioned in the prescription orders.
- If appropriately designed the single or multi-drug prescription forms can be used.
- When the institutional prescripton blanks are used the rescriber should print his/her name, telephonre no. And reg. No. On the prescription blank

Guidelines for the pharmacist

1. Name, address ans telephone no. Of pharmacies; name of the prescriber; name strength and quantity of the drug despensed; full name of the patient and other information if in need the above information should be included on the prescription.
2. All the information regarding the direction of use of the medications should be understandable as well as concised.
3. If the pharmacist feels that the prescripyion ordres does not meet the criteria the confusion should be sloved and the verbal instrutions should be given to the patient if necessary.
4. If there is the confusion inthe drug adminstration (for eg eye drops ehich can be mistakely used as the ear drops)then at such times the route should be clearly br indicated on the prescription.
5. The expiration date and the special storage if in need should br included on the preescription by the pharmacist.

Error potentional in the dispencing phase

These are the despensing errors that is;

The discrepancy between a prescrition and the medicine that the harmacy delivers to the patient or distributes to the ward on the basis of the prescription , including the dispensing of medication with inferior pharmaceutical or informational quality.

- Work environment:Physical loaction of the service, worl load, hours of oppertion.
- Managents : outdated and unused products unit of use products.
- Resources:available reference, consultants computers, or decision support technology
- Performance evluation: staff evaluation and practice skills behaviour and knowledge skills
- The steps advocted for the improvment in the dispencing accuracy:
- Secure the high risk medications
- Implement the standard storage procedures
- The distraction and he work environment should be reduced in the dispencing area
- Remindres should be used for the lool alike sound alike drugs
- The prescription orders, lables, and the medications should br keept toghrther through out the dispensing process
- The final check to the priscription should br given with the verification to the original prescrption oorders and the lables
- The manufacturer identification code should be entered in to the computer profile and the lable as well
- Final check should be given using the bar coding if possible
- Provife patient counseling

Error potentional in the administration phase

A drugs administration is the eror where an incorrect administration of the drug to the patient occurs.this could include the wrong drug being administered by the wrong person. The consequences of these error can include ensignificant effects to the patient till the patient death. However the administration phase servers as the final check on the entire medicaton order itself and includes:

- Ensuring the aappropriate indication use.
- Evaluating the written order for completeness
- Abrevations, unit of measurements, use of verbal orders should be evalutaed
- Dosing calculation and verification
- Therapies should be on time
- Identification of the patient
- Preparation and possibly dispensing the medication
- Correct use of the medication devices
- Documents of treatment and education of the patient

Medication error prevention strategies

- Implement a bar coding
- The protocols for standar practising should be impleemented
- The laboratory checks confirms the correct treatment to the patient.
- The correct medications on the correct time of he administration
- Automated dispencing cabinets
- Elimination of the handwriting medical ecords and physical orders
- The patient information shoud be made availble at patient care.

Recomendation for the prescribing improvments

The council recommends the following:

1. All the prescription documents are legible verbal orders should be minimised.
2. Prescription orders should include the brief notation of purpose (eg cough) unless considered inappropriate by the prescriber notation can help further assure that the proper medication is dispenced and creates a extra saftey.
3. All the prescription orders are writen in the metric ststem except the therapies that use standard units such as the insulin and the vitamins.
4. Doses for the oral liquids be expressed using only metric weight or volume ee.g mg or ml . If the ml are used it should be associated with the concentration or total dose in milligrams.
5. Prescriber should include the patient reported the age and when appropriate weight of the patient on the prscription order. He most common error cause in the pediatric abd gediatric populations the age and weight of the person can help the dispencing health care professionals in their double check of the appropriate drug and dose.
6. The leadinf zeros always preceds a decimal expression of less than one (use 0.4mg instead of .4mg)a terminal or the trailing zero should never be used after the decimal (express as 4mg, not 4.0 mg)ten fold error in the drug strength and dossage have occured with the decimal due to the use of a traiing zreo or the absece of leading zero.
7. Prescribers avoid the use of abbrevation including those for the drug names (e.g., MOM, HCTZ) and latin directions for use.
8. Conduct the both initial ongoing traiting of prescribers on accepted standards of the practise releater to the prescription writting process with the ultimate goal of the risk identifiction and medication error prevention.

Changing system with the organisation

The top list of 10 improvement in the literature includes the following items

- Knowledge improvements: about the medication
- Identification of the tracking medication: process of understanding of distribution
- Patient information :availability, access, accuracy and timeliness
- Order of the transcription: elimination of the process
- Allergy defense: hard stop capabilities, access to the patient information
- Communication: patient informmation, system performance medication use
- Device use: standardization and competency regarding use
- Standarization of medication dose and distribution

Steps for conducing a root cause analysis

Several key features of the health care organization can help to conduct the root cause analysis.

- A multidiciplinary team should be assessd to identify the error, failure, or adveres event of interset
- Establish the way to communicate findings and data elements required to conduct the aanalysis
- Create a plan with the target dates, responcibilities, and data collection stratagies required for the investigation
- Defie all the elements of the process and issues clearly
- Brainstorm all possible causes or potential causes
- Sort, analyze and priotrize cause list
- Determine which processes and system are part of the investigation
- Determine the common causes
- Begin the implementaion change as well as design it while engaging in the root cause analysis
- Target system improvement, particularly the larger system
- Redeisgn to eliminate the root cause
- Measure and access new designs.

Barriers associated with safety improvement

Various reasons are there for the association to battle with enhancing security inside their association .The prescription blunders or the unfavorable medication occasion detailing are unwieldy. Association have not satisfactory characterized the procedure, the extent of the gathering and the individual from the medicinal services group dont comprehend why there is a need to gather and talk about the information many engaged with the announcing end of the procedure never find out about the data gathered from the investigation. Drugs store may gather and talk about a portion of the inforation, while nursing might be in charge of different parts and hazards the board or QA my get included for the different issues. Accordingly, dissappointment happen because of an absence of the correspondence, cordination and information. Documentation frameworks are additionally lumbering and regularly dont fit in well with other everday consideration duties.

Explicit objectives for the antagonistic occasion enhancements exercises for the most part incorporate :

- Increase the documentation
- Aggregate data effectively
- Organizational education and training regarding prevention and detection
- Use data to improve the medication use system
- Minimize patient risk
- Maximize health outcomes
- Create an open and authentic environment where there is a focus on the system improvement and reporting
- Remove the focus on the individual and punitive process
- Meet regularly standards
- Many groups have identified methods to improve the saftey of the medication use process. National and local groups have stragies to share and stories to tell. It is important to learn and replicate best practise and build on the sucess of the others.

Source of learning about patient safety

- The agency for the healthcare research and quality (AHRQ)
- The american hospital association (AHA)
- Anesthesia patient saftey foundation (APSF)
- Institute for healthcare improvmnt (IHI)
- Institute for the safe medication practice (ISMP)
- Joint commission on the accreditation of the health care organistion (JCAHO)
- Leapfrog group
- Malcolm baldrige national quality program
- Massachuusetts coalition for the prevention of medical errors
- Minnesota hhospital and healthcare partnership (MHHP)
- National committee for the quality assurance (NCHC)
- National patient saftey foundation (NPSF)
- National quality forum (NQF)
- United states pharmacopeial convention (USP)

Role of the patient in medication error

This zone is moderately underlooked into the three stay a few unanswered inquiries. Little is thought about how they make attribution of unfavorable impacts or how they make attributions of unfavorable impact. Some exploration recommend that patients psycological models of unfriendly medication responses bear a cozy reletionship to the model of sickness discernment. Ongoing NICE rules prescribe that the expert ought to inquire as to whether they have any worries about their drugs, and this methodology is probably going to yield data helpful for the recognizable proof of medicine mistakes.

CONCLUSION

The way to more secure prescription use and enhancment in the patient wellbeing isnt about a goal. This is an adventure that must include iterative learning there are no supreme arrangments no mysterious declarations that will instruct the calling of drug store to settle the framework. The issues the calling of drug store to settle the framework. The issues it countenances wont be tackled by the dimensions of reasoning that made them. The calling is compelled to think about new methodologies, new learning and to think about mindsets acting and being that are outside our customary methodologies, new learning and to thnk about the mindsets, acting and being that are outside our customatory methodologies. At last the judge of the nature of work the administration conveyed and the result of the consideration is an inexorably very much educated patient and also ther payors and the controllers

from general society and private divisions. Concentration on the patient need and needs, less on how we d it around here.

REFRENCES

1. Aronson J. K. Medication errors: what they are, how they happen, and how to avoid them; QJM: An International Journal of Medicine, 2009; 102(8): 513–521.
2. Alduais, A.M., Mogali, S., Shabrain, B.A., Enazi, A.A., & Al-awad, F. Barriers and strategies of reporting medical errors in public hospitals in Riyadh city: A survey-study; IOSR Journal of Nursing and Health Science (IOSR - JNHS), 2014; 3(5): 72 – 85.
3. Britten N Medication errors: the role of the patient; Br J Clin Pharmacol, 2009; 67(6): 646–650.
4. Cheung K, Marcel LB, De Smet PA Medication errors: the importance of safe dispensing; Br J Clin Pharmacol., 2009; 67(6): 676-680.
5. Ferner RE, Aronson JK. Clarification of terminology in medication errors: definitions and classification; Drug Saf., 2006; 29(11): 1011-1022.
6. Ferner RE, Langford NJ, Anton C, Hutchings A, Bateman DN, Routledge PA Random and systematic medication errors in routine clinical practice: a multicentre study of infusions, using acetylcysteine as an example; Br J Clin Pharmacol., 2001; 52(5): 573–577.
7. Flanagan ME, Ramanujam R, Doebbeling BN The effect of provider- and workflow-focused strategies for guideline implementation on provider acceptance; Implement Sci., 2009; 4: 71.
8. Giampaolo P.V., Pietro M. Medication errors: prescribing faults and prescription errors; Br J Clin Pharmacol., 2009; 67(6): 624–628.
9. Hughes RG; Blegen MA. Patient Safety and Quality: An Evidence-Based Handbook for Nurses; Rockville (MD): Agency for Healthcare Research and Quality (US); Chapter 37 - Medication Administration Safety, 2008.
10. Hsu CC, Chou CL, Chen TJ, Ho CC, Lee CY, Chou YC. Physicians Failed to Write Flawless Prescriptions When Computerized, 2015.
11. Handler SM, Perera S, Olshansky EF, et al. Identifying modifiable barriers to medication error reporting in the nursing home setting; J Am Med Dir Assoc., 2007; 8(9); 568-574.
12. Hartnell N, MacKinnon N, Sketris I, et al Identifying, understanding and overcoming barriers to medication error reporting in hospitals: a focus group study; BMJ Qual Saf, 2012; 21(5): 361-368.
13. Haw C, Stubbs J, Dickens GL. Barriers to the reporting of medication administration errors and near misses: an interview study of nurses at a psychiatric hospital; J Psychiatr Ment Health Nurs., 2014; 21(9): 797-805.
14. Jeetu G, Girish T. Prescription drug labeling medication errors: a big deal for pharmacists; J Young Pharm., 2010; 2(1): 107-111.
15. Jessica G. Doctors in US incorrectly prescribe antibiotics in nearly a third of cases; The Guardian, 2016.
16. Khaleej Times UAE bans handwritten medical prescriptions 7,000 deaths worldwide result from illegible handwriting, 2018.
17. Kohn LT, Corrigan JM, Donaldson MS. Chapter 8. Creating Safety Systems in Health Care Organizations. To Err is Human: Building a Safer Health System. Institute of Medicine (US) Committee on Quality of Health Care in America. Washington (DC): National Academies Press (US), 2000.
18. Koohestani, Hamid Reza and Baghcheghi, Nayereh Barriers to the Reporting of Medication Administration Errors among Nursing Students [online]. Australian Journal of Advanced Nursing, 2009; 27(1): 66-74.
19. La Caze A Safer dispensing labels for prescription medicines; Aust Prescr., 2018; 41(2): 46-49.
20. Mendes JR, Lopes MCBT, Vancini-Campanharo CR, Okuno MFP, Batista REA Types and frequency of errors in the preparation and administration of drugs. Einstein (Sao Paulo), 2018; 16(3): eAO4146.
21. McLeod M, Barber N, Franklin BD Facilitators and Barriers to Safe Medication Administration to Hospital Inpatients: A Mixed Methods Study of Nurses' Medication Administration Processes and Systems (the MAPS Study); PLoS One., 2015; 10(6): e0128958.
22. Nelson EC, Batalden PM, Huber TP, et al Microsystems in Health Care: Part 1. Learning from HighPerforming Front-Line Clinical Units; Jt Comm J Qual Improv, 2002; 28(9): 472-493.
23. Norman DA Categorization of action slips; Psychol Rev., 1981; 88(1): 1-15.
24. NABP. Report of the Task Force on Uniform Prescription Labeling Requirements. National Association of Boards of Pharmacy • (P) 847/391-4406 • (F) 847/391-4502.
25. Pietra LL, Calligaris L, Molendini L, Quattrin R, Brusaferro S Medical errors and clinical risk management: state of the art; Acta Otorhinolaryngol Ital., 2005; 25(6): 339-346.
26. Reason JT Human Error; New York: Cambridge University Press, 1990.
27. Runciman WB, Sellen A, Webb RK, Williamson JA, Currie M, Morgan C, Russell WJ The Australian incident monitoring study. Errors, incidents and accidents in anaesthetic practice; Anaesth Intensive Care., 1993; 21(5): 506-519.
28. Rodziewicz TL, Hipskind JE Medical Error Prevention. Treasure Island (FL): StatPearls Publishing; URL: https://www.ncbi.nlm.nih.gov/books/NBK499956/, 2018.
29. Wakefield DS, Ward MM, Groath D, Schwichtenberg T, Magdits L, Brokel J, Crandall D Complexity of medication-related verbal orders; Am J Med Qual., 2008; 23(1): 7-17.

30. Website. Texas State Board of Pharmacy. (Tab 30) Operation Standards. Prescription dispensing and delivery.URL: https://www.pharmacy.texas.gov/files_pdf/BN/Aug13/Tab_30.pdf.
31. Wolf ZR; Hughes GR. Chapter 35Error Reporting and Disclosure. Patient Safety and Quality: An Evidence-Based Handbook for Nurses; Rockville (MD): Agency for Healthcare Research and Quality (US), 2008.
32. Zayed A., Sharon C., Imti C. Medication errors in the Middle East countries: A systematic review of the literature; European Journal of Clinical Pharmacology, 2013; 69(4): 995-1008.